

Palatalization and Vowel Coalescence in Jejueo

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This study explores palatalization and vowel coalescence in Jejueo, a language spoken in Jeju Island. This study establishes a corpus based on Hyon (1962) and focuses on dental and velar palatalization. The data reveal different patterns of variants in the two types of palatalization. In Jejueo, there are three phonetic realizations of vowels in *k*-palatalization and two realizations in *h*-palatalization. According to the data, this study also suggests a chronology: palatalization preceding vowel coalescence.

Keywords: Jejueo, palatalization, vowel coalescence, Seoul dialect

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1. Introduction

This paper investigates the interaction of palatalization and vowel coalescence in Jejueo, a language spoken in Jeju Island, South Korea.¹ In Korean, palatalization is pervasive in alveolar stops across the Korean Peninsula (Yeon 2002).² In the history of the Korean language, alveolar stops have undergone palatalization from Middle Korean to Modern Korean, as in the word ‘earth, land’ *chi* (< *ti*). In addition to dental

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¹ In Korean dialectology, the language spoken in Jeju Island is one of the dialects of Korea, while in western linguists’ viewpoint, it is a language sharing equal status with Korean. In other words, peninsula Korean and Jeju Korean are sister languages. Following O’Grady (2015), Brenzinger and Yang (2017), and Yang, Yang, and O’Grady (to appear), this study uses Jejueo ‘Jeju language’ rather than Jeju dialect to refer to the language spoken in Jeju Island.

² Yeon (2002) classifies the Korean language into six zones. When palatalization is taken into account, there are three major areas: (a) without any palatalization, (b) with dental palatalization, but without velar palatalization, (c) with dental and velar palatalization. Although dental palatalization is pervasive across the Korean Peninsula, Phyongan dialect in the northern area lacks dental palatalization, as in the words ‘to hit’ [tʰida] and ‘firmly’ [kudi]. The second major area corresponds to the central area, i.e., Seoul for example. The words ‘to hit’ and ‘firmly’ in Seoul dialect are [cʰida] and [kudʒi], respectively. In the southern area, there is velar palatalization. In Jejueo, the word ‘road’ is [cil] (= [kil] in Seoul dialect).

palatalization, Korean has other types of palatalization, such as *k*-palatalization and *h*-palatalization. According to Chung (1995), Kim (2001), and Yeon (2002), in southern dialects, including Jejuo, velar stops also undergo palatalization, as in (1).

(1)	a. Jejuo	b. Seoul dialect	gloss
	[c ^h i]	[k ^h i]	‘rudder’
	[cil]	[kil]	‘road’
	[cim]	[kim]	‘seaweed’
	[cire]	[k ^h i]	‘height’
	[cip ^h i]	[kip ^h i]	‘depth’

In (1), the examples in Jejuo have been palatalized, while the initial velar stop in Seoul dialect is still *k*. In addition to *k*-palatalization, *Jejuo* has *h*-palatalization, in which the glottal fricative *h* becomes *s* when it is followed by the high front vowel *i* or the palatal glide *j*. Examples are shown in (2).

(2)	a. Jejuo	b. Seoul dialect	gloss
	[se]	[hjə]	‘tongue’
	[səl]	[hjəl]	‘blood’
	[fim]	[him]	‘strength’
	[suga]	[hjuɡa]	‘vacation’
	[saŋgi]	[hjaŋgi]	‘fragrance, scent’

The five examples in (2) have two phonetic realizations. In Jejuo, the initial consonant is *s*, whereas its corresponding form in Seoul dialect is *h*.

The second phonological process explored in this paper is the coalescence of /j/ and /ə/ in Jejuo. (3) shows the fusion of the sequence /jə/ into a front mid vowel, [e].

(3)	a. Jejuo	b. Seoul dialect	gloss
	[p ^h eŋ]	[p ^h jəŋ]	‘bottle’
	[men]	[mjən]	‘face’
	[penmeŋ]	[pjənmeŋ]	‘to distinguish’
	[perak]	[pjərak]	‘lightning’

In (3), the syllables in Jejueo contain mid front vowels [e], while the corresponding syllables in Seoul dialect are a sequence of [j] and [ə]. The examples of the mid front vowel [e] in (3) are mostly attested after labial onsets.

In Jejueo, palatalization and vowel coalescence are independent processes, as in (2) and (3), but they interact in the sequence of /Cjə/ (C = consonant /k/ or /h/). This interaction has three possible outputs. First, the onset could be palatalized without vowel coalescence, as in [cə] or [sə]. Second, it is also possible that vowel coalescence could take place without palatalization, and the outputs would be [ke] or [he]. The third output is a complete interaction. In this case, the output is [ce] or [se].

To find out how the two phonological processes interact, this paper adopts a corpus-based approach by analyzing data from two sources: Hyon (1962) and an online dictionary of Jeju dialect, located at <https://www.jeju.go.kr/culture/dialect/dictionary.htm>. To fully explain the corpus, Section 2 discusses the corpus and data selection criteria. Section 3 reports the results: *k*-palatalization and *h*-palatalization. Section 4 compares the results of the two types of palatalization, and Section 5 concludes.

2. Corpus and data selection criteria

A small corpus is established in this paper, and the data are collected from Hyon (1962) and an online dictionary of Jeju dialect, located at <https://www.jeju.go.kr/culture/dialect/dictionary.htm>. Hyon (1962) conducted a general survey on Jejueo and then compiled a Jejueo-Seoul dialect dictionary in two volumes, comparing Jejueo with Seoul dialect in the first volume, and Seoul dialect with Jejueo in the second volume. The data in this dictionary were sorted and, if necessary, the online dictionary was used.

The gleaned data were classified according to the three criteria in (4).

- (4)
 - a. Place of articulation (*k* vs. *h*)
 - b. Variants (yes or no)
 - c. Weight of palatalization and vowel coalescence
 - i. Palatalization outweighs vowel coalescence
 - ii. Vowel coalescence outweighs palatalization
 - iii. Palatalization interacts with vowel coalescence

The data were first divided into *k*-palatalization and *h*-palatalization. The former refers to a velar stop and the latter to a glottal fricative. In Hyon's (1962) data, an entry

might have multiple readings. This paper includes all the possible readings and then classifies the sorted entries into those with variants and those without. For example, the word ‘road’ can be [cil] and [kil]. In this paper, the word ‘road’ is classified as having variants. It should be noted that although there are two readings for a word, it is not necessary to classify it as having variants. The word ‘to carve’ can be [sagida] or [segida]. These are not considered variants in this paper because palatalization and vowel coalescence are not involved.

The data were further divided according to the weight of the two phonological processes. There are three situations: (a) palatalization outweighs vowel coalescence, (b) vowel coalescence outweighs palatalization, and (c) palatalization interacts with vowel coalescence.

This paper focuses on the two processes in the word-initial position because of the constraint that palatalization is far less frequent in non-initial positions (Kim 2001, Lin 2019). Due to the two directionalities of data presentation, the data selection criteria differ. From Jejueo to Seoul dialect, the four initial sequences of *k*-palatalization, [cə], [ce], [ke] and [kjə], and those of *h*-palatalization, [sə], [se], [he] and [hjə], are collected. In contrast, from Seoul dialect to Jejueo, the examined sequences are [kjə] and [hjə]. The data were sorted, and the results are reported in Section 3.

3. Results

The sorted data are divided into *k*-palatalization (Section 3.1) and *h*-palatalization (Section 3.2). In each subsection, the distribution of variants and the weight of the two processes are also discussed. In the discussion, the data from Jejueo to Seoul dialect are presented first, followed by the data from Seoul dialect to Jejueo.

3.1. *k*-palatalization

In the data from Jejueo to Seoul dialect, there are 32 examples of *k*-palatalization, of which thirteen examples have variants. Table 1 shows the distribution.³

Table 1 Distribution of *k*-palatalization from Jejueo to Seoul dialect

Variants	yes				no	
	13				19	
Phonological processes	P	VC			P	VC
	kj ~ c	kjə ~ ce	kjə ~ cə	kjə ~ cə ~ ke	c	ə
Tokens	13	1	11	1	19	19

³ P = palatalization, VC = vowel coalescence

There are thirteen words that have variants, and all of them alternate between [kj] and [c], as in the word ‘to be married’, [kjəlhon] or [cəlhon]. Among the thirteen words with variants, two examples that also undergo vowel coalescence are the word ‘only’, which can be [ceu] or [kjəu], and the word ‘to be married’, in which there is no palatalization, but there is vowel coalescence, [kelhon]. There are nineteen examples with a single reading. All of the examples have undergone palatalization. Meanwhile, in these nineteen examples the vowel [ə] is maintained, as in the word ‘spare time’, [cərw(l)] in Jejueo (= [kjərwul] in Seoul dialect). The data in Table 1 reveal that no single example resists palatalization in the corpus either in the forms with variants or in the fully palatalized forms. Nevertheless, vowel coalescence seems to be rare, as there is only one example in the corpus.

Table 2 shows the distribution of the data from Seoul dialect to Jejueo.

Table 2 Distribution of *k*-palatalization from Seoul dialect to Jejueo

Variants	yes 22				no 17			
	P	VC			P	VC		
Phonological processes	kj ~ c	ə ~ ʊ	ə ~ e	ə ~ e ~ ʊ	c	ə	e	ʊ
Tokens	8	12	1	1	17	11	3	3

In Table 2, there are 22 examples of *k*-palatalization with variants. Eight examples show the alternation of [kj] and [c], as in the word ‘determination’ [kjəldan] in Seoul dialect. The Jejueo form of this word can be [kjəldan] or [cəldan]. In the eight examples that have a velar stop as the onset, seven examples do not have vowel coalescence. The only exception is the word ‘to be married’, which can be [kjəlhon], [cəlhon], or [kelhon].

The other fourteen examples with variants are attested with vowel coalescence, and their onsets are only [c]. There are three types of alternations in the vowels. First, twelve examples exhibit the alternation of [ə] and [ʊ], as in the word ‘lined clothes’, which can be [cəp-ot] or [cʊp-ot]. The other two types of alternations have only one example each. The example alternating between three vowels is the word ‘side’ [kjət] in Seoul dialect. The Jejueo word ‘side’ can be [cək], [ce] or [cʊk]. The example that alternates between [ə] and [e] is the word ‘a double-layered wall’ [kjəp-tam] in Seoul dialect. The Jejueo form can be [cəp-tam] or [cʊp-tam].

In the corpus, there are seventeen examples without variants. All of these examples are palatalized as [c], and these seventeen examples have three realizations of vowels. Eleven examples are realized as schwa [ə], as in the word ‘to compare’ [kjəncuda] in Seoul dialect. The Jejueo form is [cəncuda]. There are three examples with [ce]. For instance, the word ‘be difficult to stand’ in Seoul dialect is [kjəpda], which is [ceuda]

in Jejueo. There are also three examples with [cɒ]. In the word ‘a lobe of the liver of a cow’, the Seoul dialect is [kjət-kan] (= [cɒt-kan] in Jejueo).

The data from Jejueo to Seoul dialect are similar to those from Seoul dialect to Jejueo in the palatalization of [kj], which is pervasive in the corpus. In Tables 1 and 2, there are only a few examples of vowel coalescence [e] (< 3). The corpus data also show that schwa [ə] is lowered to [ɒ] in the data from Seoul dialect to Jejueo.

3.2. *h*-palatalization

Table 3 shows the distribution of *h*-palatalization from Jejueo to Seoul dialect.

Table 3 Distribution of *h*-palatalization from Jejueo to Seoul dialect

Variants	yes		no		
	4		11		
Phonological processes	P	VC	P	VC	
	hj ~ s	ə	s	e	ə
Tokens	4	4	11	8	3

There are fifteen examples of *h*-palatalization in Table 3. Four examples have variants, which are attested in the alternation of [hj] and [s]. When palatalization takes place, vowel coalescence does not occur concurrently. The four examples keep schwa as their nuclei. For instance, the word ‘cash’ in Jejueo can be [səŋgum] or [hjəŋgum], while it is [hjəŋgum] in Seoul dialect. In the eleven examples without variants, all are palatalized as [s]. There are two realizations of the vowel. Eight examples were realized as [se], and all of these were attested in the word ‘tongue’. The other three examples lack vowel coalescence, as in the word ‘blood and breath’, [səlgi] in Jejueo (= [hjəlgi] in Seoul dialect).

From Seoul dialect to Jejueo, there are seventeen examples.⁴

Table 4 Distribution of *h*-palatalization from Seoul dialect to Jejueo

Variants	yes		no		
	5		12		
Phonological processes	P	VC	P	VC	
	hj ~ s	ə	s	e	ə
Tokens	5	5	12	7	5

In Table 4, there are five examples of *h*-palatalization with variants that exhibit the alternation of [hj] and [s]. In the variants, the vowel is schwa [ə], as in the word ‘cash’, which is [hjəŋgum] in Seoul dialect, but [səŋgum] or [hjəŋgum] in Jejueo. There are

⁴ In the corpus, the word ‘side door’ is [hjəpmun] in Seoul dialect (= [jəpmun] in Jejueo). This example is not included in the corpus because there is no palatalization or vowel coalescence.

twelve examples without variants in Table 4. All twelve of these are palatalized as [s]. The realizations of the vowels are twofold. One realization is [e] (in seven examples), as in the word ‘tongue’ [hjə] in Seoul dialect.⁵ The corresponding Jejuo form of this word is [se]. The other realization is [sə], as in the word ‘brothers’ [hjəŋje] in Seoul dialect (= [səŋje] in Jejuo).

The data from Jejuo to Seoul dialect do not deviate much from those from Seoul dialect to Jejuo in the palatalization of [sj]. No example resists palatalization. In the corpus, the vowel remains as [ə] or undergoes coalescence as [e].

4. Results

The *k*-palatalization and *h*-palatalization in Section 3 show one similarity and one difference. The similarity is that no single example in the two types resists palatalization. When there is [kjə]/[hjə], there is [cə]/[sə] as well. If a variant is not attested, the output must be palatalized. The difference is that there is a low vowel [ɐ] in *k*-palatalization. The low vowel does not appear in *h*-palatalization, however. With three vowels, *k*-palatalization shows more variation than *h*-palatalization does in Jejuo.

As there are two phonological processes in the data, there might be a chronology in the development of Jejuo. The two processes can order in two different ways: palatalization preceding vowel coalescence or vowel coalescence preceding palatalization. It is also possible that the two processes interact although there is no chronology. Based on the data in Section 3, this paper suggests that palatalization must precede vowel coalescence; the chronology is explained in the following discussion.

First, when palatalization precedes vowel coalescence, the chronology is that of (5).

(5)

Input	kjə	hjə
Palatalization	/kjə/ > [cə]	/hjə/ > [sə]
Coalescence	-----	-----
Output	[cə]	[sə]

In the corpus, when there is [kj] or [hj], there is [c] or [s]. Thus, in (5), when [kj] or [hj] undergo palatalization, vowel coalescence does not take place.

When vowel coalescence precedes palatalization, the chronology appears as in (6).

⁵ All the examples of [se] occurred in the word ‘tongue’.

(6)

Input	kjə	hjə
Coalescence	/kjə/ > [ke]	/hjə/ > [he]
Palatalization	-----	-----
Output	[ke]	[he]

The chronology in (6) is not supported by the corpus data, however. There is a single example of [ke] in the word ‘to be married’ [kelhon], which also has two other variants, [kjəlhon] and [cəlhon]. In *h*-palatalization, there is no [he]. Therefore, the chronology in (6) has not been applied in Jejueo.

In addition to the orderings in (5) and (6), the two processes interact, as [kjə] and [hjə] turn into [ce] and [se]. In the corpus, there are sporadic examples of [ce]. As for [se] in *h*-palatalization, it is only attested in the word ‘tongue’. With this low frequency attested for only a single example in *h*-palatalization, it seems that the interaction of the two processes is not salient in Jejueo.

5. Conclusion

This paper has used a corpus-based approach to investigate how palatalization and vowel coalescence take place in Jejueo. The results reveal that palatalization outweighs vowel coalescence, suggesting a progressive directionality such that vowel coalescence without palatalization does not occur in Jejueo. Once the palatalization has occurred, vowel coalescence is blocked. The blocking effect can also be attributed to the low frequency of [ke] or [he] in the corpus. The data also demonstrate that *k*-palatalization has one more variant with the vowel [ɐ], which is not attested in *h*-palatalization.

Future research on this topic can be extended to the emergence of the low vowel [ɐ] in *k*-palatalization. As this vowel is not observed in *h*-palatalization, the restriction is likely to be related to onsets. The palatalized *c* (< [k]) differs from *s* (< /h/) in the degree of obstruction in the oral cavity. Whether the phonetic factor can be attributed to this difference is left open for future research. This issue demands a more detailed phonetic investigation in the future.

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